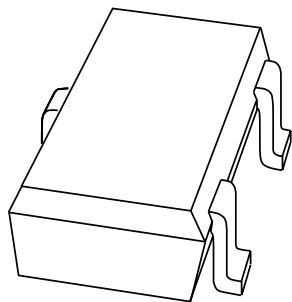


DATA SHEET



BAP51-04W General purpose PIN diode

Preliminary specification

2002 Feb 19

General purpose PIN diode

BAP51-04W

FEATURES

- Two elements in series configuration in a small SMD plastic package
- Low diode capacitance
- Low diode forward resistance.

APPLICATIONS

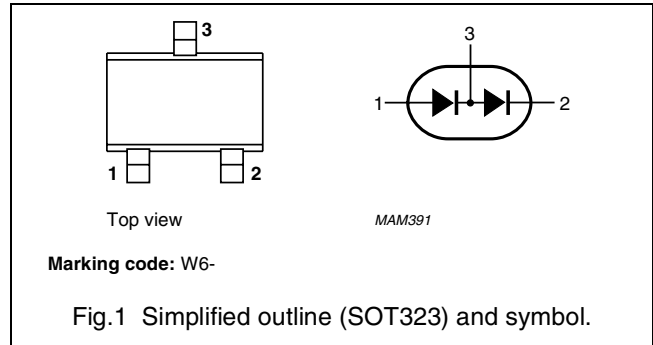
- General RF applications.

DESCRIPTION

Two planar PIN diodes in series configuration in a SOT323 small SMD plastic package.

PINNING

PIN	DESCRIPTION
1	anode
2	cathode
3	common connection



LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 60134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
Per diode					
V_R	continuous reverse voltage		–	50	V
I_F	continuous forward current		–	50	mA
P_{tot}	total power dissipation	$T_s = 90\text{ °C}$	–	240	mW
T_{stg}	storage temperature		–65	+150	°C
T_j	junction temperature		–65	+150	°C

General purpose PIN diode

BAP51-04W

ELECTRICAL CHARACTERISTICS

$T_j = 25\text{ }^\circ\text{C}$ unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
Per diode						
V_F	forward voltage	$I_F = 50\text{ mA}$	–	0.95	1.1	V
V_R	reverse voltage	$I_R = 10\text{ }\mu\text{A}$	50	–	–	V
I_R	reverse current	$V_R = 50\text{ V}$	–	–	100	nA
C_d	diode capacitance	$V_R = 0$; $f = 1\text{ MHz}$	–	0.4	–	pF
		$V_R = 1\text{ V}$; $f = 1\text{ MHz}$	–	0.3	0.55	pF
		$V_R = 5\text{ V}$; $f = 1\text{ MHz}$	–	0.2	0.35	pF
r_D	diode forward resistance	$I_F = 0.5\text{ mA}$; $f = 100\text{ MHz}$; note 1	–	5.5	9	Ω
		$I_F = 1\text{ mA}$; $f = 100\text{ MHz}$; note 1	–	3.6	6.5	Ω
		$I_F = 10\text{ mA}$; $f = 100\text{ MHz}$; note 1	–	1.5	2.5	Ω
τ_L	charge carrier life time	when switched from $I_F = 10\text{ mA}$ to $I_R = 6\text{ mA}$; $R_L = 100\text{ }\Omega$; measured at $I_R = 3\text{ mA}$	–	550	–	ns
L_S	series inductance	$I_F = 10\text{ mA}$; $f = 100\text{ MHz}$	–	1.6	–	nH

Note

1. Guaranteed on AQL basis: inspection level S4, AQL 1.0.

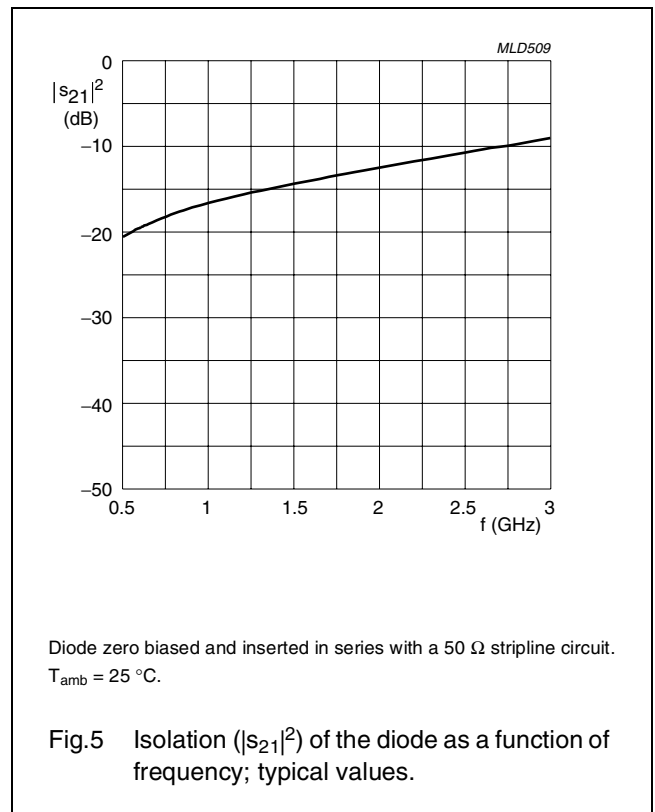
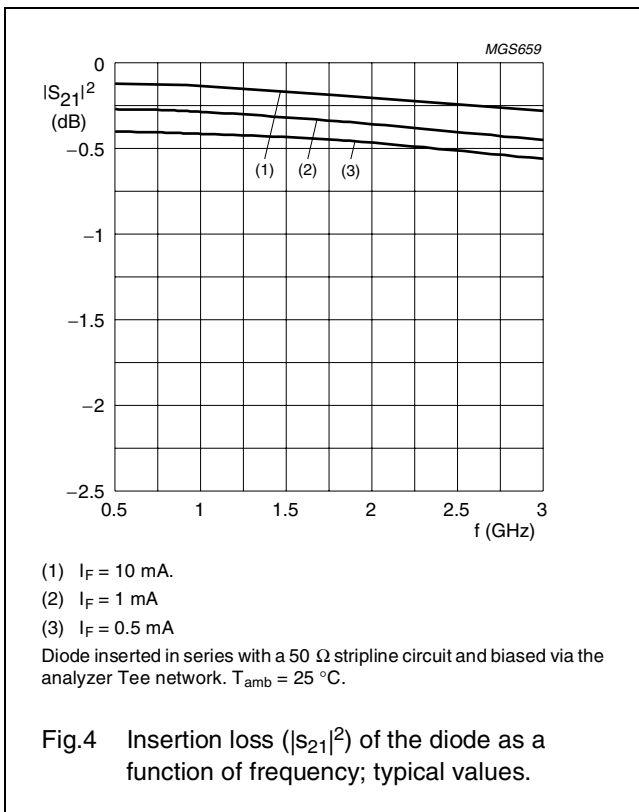
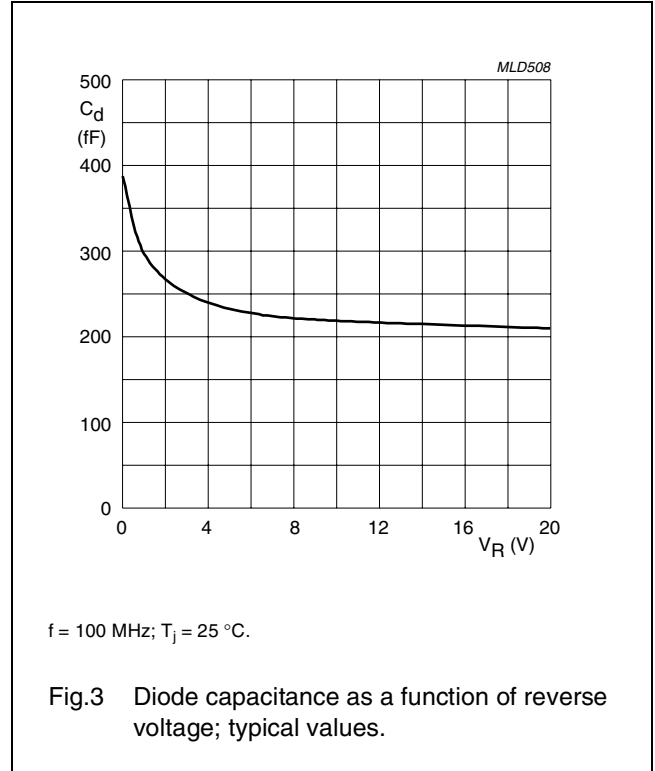
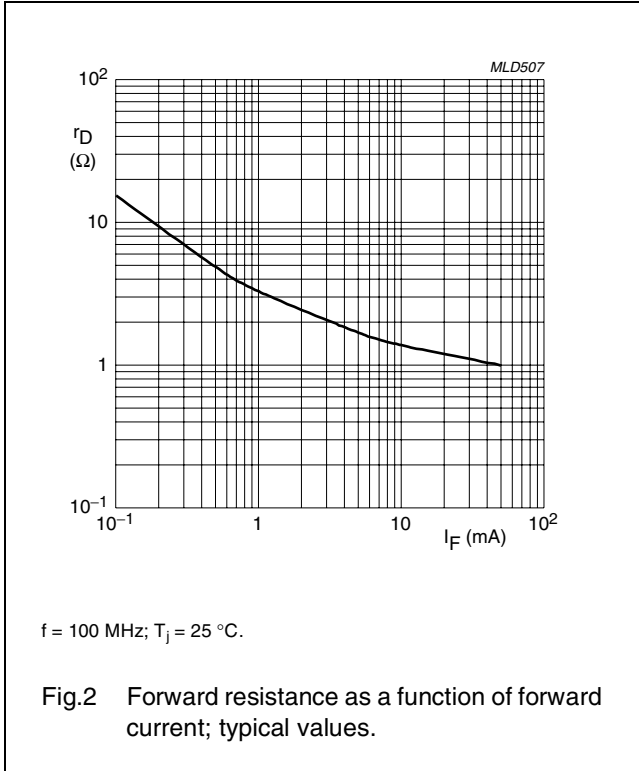
THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-s}$	thermal resistance from junction to soldering point	250	K/W

General purpose PIN diode

BAP51-04W

GRAPHICAL DATA



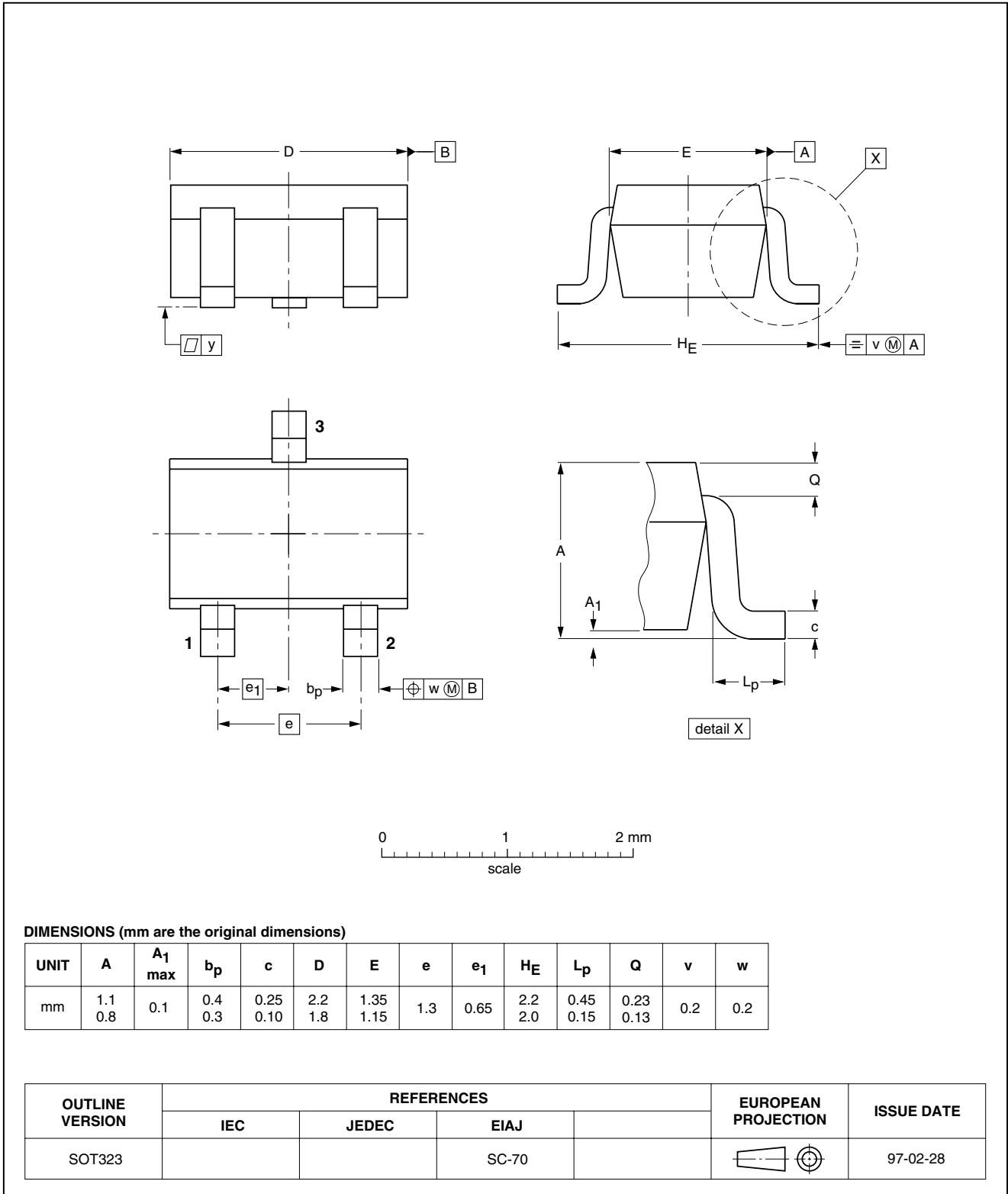
General purpose PIN diode

BAP51-04W

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT323



General purpose PIN diode

BAP51-04W

DATA SHEET STATUS

DATA SHEET STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾	DEFINITIONS
Objective data	Development	This data sheet contains data from the objective specification for product development. Philips Semiconductors reserves the right to change the specification in any manner without notice.
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Contact information

For additional information please visit <http://www.semiconductors.philips.com>. Fax: +31 40 27 24825

For sales offices addresses send e-mail to: sales.addresses@www.semiconductors.philips.com.

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